

Amendments to the Claims:

This listing of claims will replace all prior versions, and listing, of claims in the application:

Listing of the Claims:

1. (Previously Presented) A computer readable medium for storing a reduced set of virtual machine instructions suitable for execution in a virtual machine, the set of virtual machine instructions representing a number of corresponding Java Bytecode executable instructions that are also suitable for execution in the virtual machine,
wherein the set of the virtual machine instructions consists of a number of virtual machine instructions which is less than the number of the corresponding Java Bytecode executable instructions,
wherein every one of the corresponding Java Bytecode executable instructions can be represented by at least one of the virtual machine instructions in the virtual machine instruction set;
wherein the set of virtual machine instructions includes at least one virtual machine instruction that represents at least one operation that cannot be represented by any one of the Java Bytecode executable instructions; and
wherein at least one virtual machine instruction in said set of virtual machines is internally represented in the virtual machine by a code stream and a data stream, wherein the code stream is suitable for containing a code portion of the at least one virtual machine instruction, and wherein the data stream is suitable for containing a data portion of the at least one virtual machine instruction.
2. (Canceled)
3. (Previously Presented) A computer readable medium for storing a set of virtual machine instructions as recited in claim 1, wherein two or more Java Bytecode executable instructions are represented by one virtual machine instruction.
4. (Previously Presented) A computer readable medium for storing a set of virtual machine instructions as recited in claim 1, wherein at least one of the Java Bytecode

executable instructions can be represented by the two or more virtual machine instructions.

5. (Previously Presented) A computer readable medium for storing a set of virtual machine instructions as recited in claim 4, wherein the least one Java Bytecode executable instruction is a conditional data flow operation.

6. (Canceled)

7. (Previously Presented) A computer readable medium for storing a set of virtual machine instructions as recited in claim 4, wherein the at least one virtual machine instruction represents a duplicate stack operation.

8-9. (Canceled)

10. (Previously Presented) A method of converting a set of Java Bytecode executable instructions into a reduced set of executable virtual machine instructions, the method comprising:

receiving one or more bytes representing a Java Bytecode instruction suitable for execution in a virtual machine;

selecting a corresponding virtual machine instruction, the corresponding virtual machine instruction suitable for execution in the virtual machine and representing one or more operations that can be performed when the Java Bytecode instruction is executed; wherein every one of the corresponding Java Bytecode executable instructions can be represented by at least one of the virtual machine instructions in the virtual machine instruction set and wherein the set includes at least one virtual machine instruction that represents at least one operation that cannot be represented by any one of the Java Bytecode executable instructions;

loading the corresponding virtual machine instruction into the virtual machine as an internal representation into a pair of streams, wherein the pair of streams includes a code stream and a data stream, wherein the code stream is suitable for containing a code portion of the at least one virtual machine instruction, and the data stream is suitable for containing a data portion of the at least one virtual machine instruction; and

wherein the virtual machine instruction can represent at least two or more Java Bytecode executable instructions such that operations that can be performed by executing the at least two or more Java Bytecode executable instructions can be performed by execution of the virtual machine instruction.

11-12. (Canceled)

13. (Previously Presented) A computer readable medium for storing a set Java Bytecode instruction translator operating to convert a set of Java Bytecode executable instructions suitable for execution on a virtual machine into a reduced set of corresponding executable virtual machine instructions,

wherein the corresponding virtual machine instructions are also suitable for execution in the virtual machine and represent operations that can be performed by execution of a number of corresponding Java Bytecode instructions;

wherein the corresponding set of the virtual machine instructions consists of a number of virtual machine instructions that is less than the number of the corresponding Java Bytecode executable instructions;

wherein every one of the Java Bytecode instructions can be represented by at least one of the corresponding executable virtual machine instructions in the virtual machine instruction set;

wherein at least one virtual machine instruction represents an operation that cannot be represented by any one of the Java Bytecode executable instructions; and

wherein at least one virtual machine instruction is internally represented in the virtual machine by a pair of streams, wherein the code stream is suitable for containing a code portion of the at least one virtual machine instruction, and wherein the data stream is suitable for containing a data portion of the at least one virtual machine instruction.

14-15. (Canceled)

16. (Previously Presented) A computer readable medium for storing a set Java Bytecode instruction translator as recited in claim 13, wherein the least one Java Bytecode executable instruction is a conditional data flow operation.

17. (Canceled)

18. (Previously Presented) A computer readable medium for storing a set Java Bytecode instruction translator as recited in claim 13, wherein the at least one virtual machine instruction represents a duplicate stack operation.

19-20. (Canceled)

21. (Previously Presented) A computer readable medium including computer program code for storing a reduced-set of virtual machine instructions suitable for execution by a virtual machine, wherein the reduced-set of virtual machine instructions includes a first plurality of virtual machine instructions that collectively represent a complete-set of virtual machine instructions which can be used to implement said virtual machine, wherein said virtual machine may also be implemented by a larger-set of virtual machine instructions including a second plurality of virtual machine instructions that collectively represent another complete-set of virtual machine instructions which also can be used to implement said virtual machine, wherein the number of virtual machine instructions in said first plurality of virtual machines instructions of said reduced-set is less than the number of instructions in said second plurality of virtual machines instructions in said larger-set.

22. (Previously Presented) A computer readable medium as recited in claim 21, wherein said reduced-set includes at least one virtual machine instruction which implements a functionality which is not provided by any of the virtual machine instructions in said larger-set.

23. (Previously Presented) A computer readable medium as recited in claim 21, wherein said reduced-set includes: a push, a load, a store, a dup, a return, and a new instruction.

24. (Previously Presented) A computer readable medium as recited in claim 22, wherein said virtual machine includes a code stream and a data stream, and wherein the code stream is designated for storing the code associated with virtual machine instructions in said reduced-set of virtual machines instructions and the data stream is

designated for storing the code associated with virtual machine instructions in said reduced-set of virtual machines instructions.

25. (Previously Presented) A computer system, comprising:

at least one processor that supports a virtual machine, wherein said virtual machine receives at least one instruction from a reduced-set of virtual machine instructions, wherein said reduced-set of virtual machine instructions includes a first plurality of virtual machine instructions that collectively represent a complete-set of virtual machine instructions used to implement said virtual machine, wherein said virtual machine may also be implemented by a larger-set of virtual machine instructions including a second plurality of virtual machine instructions that collectively represent another complete-set of virtual machine instructions which also can be used to implement said virtual machine, wherein the number of virtual machine instructions in said first plurality of virtual machines instructions of said reduced-set is less than the number of instructions in said second plurality of virtual machines instructions in said larger-set.

26. (Previously Presented) A computer system as recited in claim 25, wherein said reduced-set includes: a push, a load, a store, a dup, a return, and a new instruction.

27. (Previously Presented) A virtual machine embodied in a computer readable media, the virtual machine being compatible with a defined virtual machine specification that includes a defined set of executable virtual machine instructions that must be implemented to conform with the virtual machine specification, the virtual machine being arranged to execute a reduced set of virtual machine instructions that provide substantially all of the functionality provided by the defined virtual machine instruction set, and wherein every one of the instructions in the defined set of executable instructions can be represented by at least one of the virtual machine instructions in the reduced virtual machine instruction set, and wherein the reduced set of virtual machine instructions consists of a number of virtual machine instructions which is less than the number executable virtual machine instructions in the defined virtual machine instruction set.

28. (Previously Presented) A virtual machine as recited in claim 27, wherein said reduced-set includes: a push, a load, a store, a dup, a return, and a new instruction

29. (Previously Presented) A virtual machine as recited in claim 27, wherein said reduced-set of virtual machine instructions includes at least one virtual machine instruction that represents at least one operation that cannot be represented by any one of the Java Bytecode executable instructions.

30. (Previously Presented) A virtual machine as recited in claim 27, wherein said reduced-set includes at least one virtual machine instruction which implements a functionality which is not provided by any of the virtual machine instructions in said larger-set.

31. (Previously Presented) A method for translating a first stream of Bytecodes that include virtual machine instructions that are compliant with a defined-set of virtual machine instructions that are defined by a virtual machine specification into a reduced set representation of Bytecodes that include only virtual machine instructions that are part of a reduced-set of virtual machine instructions, wherein the reduced-set of virtual machine instructions provide substantially all of the functionality provided by the defined virtual machine instruction set and the number of virtual machine instructions in the reduced set of virtual machine instructions is less than the number of virtual instructions in the defined set of virtual machine instructions, the method comprising:

receiving a first stream of Bytecodes that include a first plurality of virtual machine instructions, wherein all of the virtual machine instructions in the first stream of Bytecodes are included in and compliant with the defined virtual machine instructions set; and

translating the first plurality of virtual machine instructions into a second plurality of virtual machine instructions, wherein all of the second plurality of virtual machine instructions are included in and compliant with the reduced virtual machine instruction set.